UNIVERSITÄT BONN

PostDoc (m/f) in Computational Biology

The University of Bonn is an internationally operating research university with a broad spectrum of subjects. 200 years of history, around 38,000 students, more than 6,000 employees and an excellent reputation at home and abroad: Bonn University is one of the most important universities in Germany. In the recent excellence initiative, the University of Bonn was the most successful university in Germany with six Clusters of Excellence, ranging from mathematics, immunology, dependency research, robotics, economics to quantum physics.

In this excellent scientific environment, we are establishing a new research group working in the field of mathematical modeling in life and medical sciences. The research group is lead by Prof. Dr. Jan Hasenauer and positioned at the interface of the *Hausdorff Center for Mathematics: Foundations, Models, Applications* and *ImmunoSensation2: the immune sensory system*, two of the Clusters of Excellence. Our research focuses on data analysis, mechanistic modelling, statistical inference and machine learning. Applications areas include cancer and immunology, with an emphasis on high-throughput (single-cell) data.

We are currently looking for PhD students and PostDocs who want to contribute to our research activities and work in this dynamic, interdisciplinary environment. Funding is provided by the University of Bonn (e.g. through the Clusters of Excellence), the German Ministry of Education and Research (BMBF), and EU-funded Horizon2020). Open method development and application projects include

- machine learning assisted modelling of single cell data,
- multi-omics data integration for cancer drug response prediction, and
- multi-scale modeling of immune cell invasion.

Job description:

- Mathematical modeling of biological processes
- Development of statistical inference and machine learning methods
- Software development and high-performance computing (HPC)
- Statistical analysis of experimental data (e.g. single-cell omics and imaging data)
- Interpretation of analysis results
- Collaboration with biologists and medical researchers
- Publication of scientific results at conferences and in journals
- Project management and proposal writing
- Co-supervision of students

Your profile:

- PhD degree in mathematics, computer science, physics, engineering or equivalent

- Strong experience in at least three of the following topics: Mathematical modeling (ODEs, Markov jump processes or similar), statistics, numerical optimization, machine learning, bioinformatics of sequencing data, and high-performance computing
- Programming skills (e.g., MATLAB, Python, C++)
- Proficiency in written and spoken English
- Passion for science and scientific work

Our offer:

- Working in an innovative, well-equipped and scientifically stimulating environment
- Further training opportunities
- Initial short-term employment contract for 3 years with a standard public service salary (PostDoc: 100% TV EntgO Bund EG 13)

The University of Bonn is committed to diversity and equal opportunity. It is certified as a family friendly university. It aims to increase the proportion of women in areas where women are under-represented and to promote their careers in particular. It therefore urges women with relevant qualifications to apply. Applications will be handled in accordance with the Landesgleichstellungsgesetz (State Equality Act). Applications from suitable individuals with a certified serious disability and those of equal status are particularly welcome.

The deadline for the application round is **December 15, 2018**. Application documents (cover letter, CV, certificates, two references) should be submitted as soon as possible as a single PDF file via email.

Contact: **Prof. Dr. Jan Hasenauer, jan.hasenauer@uni-bonn.de**